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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,031	07/30/2003	John M. Page	10030673-1	7771
7590	11/10/2005		EXAMINER	
AGILENT TECHNOLOGIES, INC. Legal Department, DL429 Intellectual Property Administration Box 7599 Loveland, CO 80537-0599			BARTON, JONATHAN A	
			ART UNIT	PAPER NUMBER
			2186	
			DATE MAILED: 11/10/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,031	PAGE ET AL.	
	Examiner	Art Unit	
	Jonathan Barton	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 30 July 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6,8-16,19 and 20 is/are rejected.
- 7) Claim(s) 7,10,11,14 and 17 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 July 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/30/2003</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 10, 11 and 14 are objected to because of the following informalities:
 - a. In claim 10 the phrase "the application are" (line 9) should read "the applications are".
 - b. In claim 11 the phrase "As embedded system" appears to be a typographical error. "An embedded system" would be more appropriate, and the claim will be treated as such for the remainder of this office action. Appropriate correction is required.
 - c. In claim 11 the phrase "in which application are" (line 2) should read "in which applications are".
 - d. In claim 14 the phrase "wherein critical write include writes" should read "wherein critical writes include writes".

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- e. Claim 1 recites the limitation "the protected memory locations" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 10-13, 15, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Olson (US 2001/0032300).

f. As for claim 1 Olson discloses

- i. Starting a write filter that intercepts writes to the protected memory locations and stores the writes in a cache (Par. 23 Lines 11-16 and Par. 28 Lines 1-10);
- ii. Starting a state machine with at least a change state and a normal state (Par. 35 & Fig. 1c);
- iii. Upon starting the state machine, entering the change state when an indication is present that data needs to be persisted to the protected memory otherwise entering the normal state (Par. 35, Fig. 1c Steps 22, 24 and 26);
- iv. In the normal state identifying requests for critical writes to the protected memory and creating at least one update file (Par. 33) describing the critical writes (Par. 28);

- v. In the change state, applying the changes in the update file and rebooting the system in a manner that persists the changes to the protected memory (Par. 35 Fig. 1c steps 26 & 28).
- g. As for claim 2 Olson discloses
 - vi. Emptying the cache upon startup of the embedded system (Par. 35, Fig. 1c).
- h. As for claim 3 Olson discloses
 - vii. Running applications of the embedded system in the normal state (Par. 35 & 37); and
 - viii. Not running the applications of the embedded system in the change state (Par. 35 & 37).
- i. As for claim 4 Olson discloses
 - ix. Determining whether the application of the changes was successful (Par. 35, Fig. 1c step 26);
 - x. If the application of the changes was not successful, deleting the update files, erasing the indication, issuing a command to empty the cache, and rebooting the embedded system (Par. 35, Fig. 1c steps 26, 28 and 30, path/state 2);
 - xi. If the application of the changes was successful, issuing a command to persist the cache deleting the update files, erasing the indication and rebooting the system (Par. 35, Fig. 1c steps 26 & 30, path/state 1).

- j. As for claim 5 Olson discloses
 - xii. In the normal state when an update file is created, creating an indication that data needs to be persisted to the protected memory is set (Par. 34).
- k. As for claim 10 Olson discloses
 - xiii. A processing unit responsive to an operating system for executing applications to perform the functions of the embedded system (Par. 21, Line 1);
 - xiv. A main memory location storing the operating system of the embedded system (Par. 27), said operating system providing a write filter that protects the operating system from writes (Par. 23 Lines 11-16 & Par. 28 Lines 1-10);
 - xv. A secondary memory location for storing software and data (Par. 27, Par. 28 Lines 10-13); and
 - xvi. A control program that executes automatically upon booting of the system (Par. 27), said control program causing the embedded system to operate in a normal state and a change state (Par. 35, Fig. 1c), wherein:
 - (1) During operation in the normal state, the applications are run and when a critical write is requested, an update file (Par. 32 & 33) is generated to store the critical write until the embedded system enters the change state (Par. 28); and

(2) During operation in the change state, no applications are run and the update file is used to update and persist the operating system (Par. 35 Fig. 1c step 26).

- I. As for claim 11 Olson discloses
 - xvii. A normal state in which application are executed (Par. 35, Fig. 1c step 24)
 - xviii. And a write filter intercepts writes to a protected memory location and redirects them to a non-protected memory location (Par. 28);
 - xix. And a change state, entered across a boot from the normal state (Par. 35 Fig. 1c step 26)
 - xx. In which the writes applied to the write filter during the last normal state are re-applied to the write filter and subsequently persisted to the protected memory (Par. 35 Fig. 1c step 28).
- m. As for claim 12 Olson discloses
 - xxi. Applications are not run during the change state (Par. 35, *the change state occurs prior to the full system boot and program normal program launches*).
- n. As for claim 13 Olson discloses
 - xxii. Only critical writes are applied to the write filter and persisted in the changed state (Par. 11 steps b & c).
- o. As for claim 15 Olson discloses

xxiii. Writes intercepted by the write filter in the normal state are copied to at least one update file and in the change state the at least one update file is used as the source for re-applying the write to the write filter (Par. 33 and 35).

p. As for claim 18 Olson discloses

xxiv. The change state is entered subsequent to a boot when indicators of updates are present (Par. 35 Fig. 1c step 22 & 26).

q. As for claim 19 Olson discloses

xxv. Once all updates have been persisted, the state machine enters the normal state (Par. 35 Fig. 1c steps 22 & 24).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 2001/0032300) in view of Aviani, Jr. (US 5,950,205).

r. As for claim 6 Olson discloses the depended upon claim 5, but fails to disclose

xxvi. The step of creating an indication comprises writing the file name of the update file to a data file.

xxvii. Aviani Jr. teaches this (Col. 2 Lines 37-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the file name teaching of Aviani Jr. in conjunction with the filtered write system of Olson, because this method of identifying files is very common within the art and it would have been an obvious matter of engineering choice to employ it in Olson's system.

7. Claims 8, 9, 14, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 2001/0032300) in view of Hill et al. (US 2003/0221083).

s. As for claim 14 Olson discloses the depended upon claim 13, but fails to disclose

xxviii. The critical write include writes to a system registry.

xxix. Hill et al. teach this (Par. 4 & 27). It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the critical registry data of Hill et al. with the filtered write system of Olson, because both systems utilize a filtered write method to operate updates on the system, and updating registry information using the secure method of Olson would add system stability in the event of system updates.

t. As for claim 16 Olson discloses the depended upon claim 11, but fails to disclose

xxx. During the change state updates to an operating system of the embedded system are applied and persisted.

xxxi. Hill et al. teach this (Par. 32).

u. As for claim 8 Olson discloses the depended upon claim 1, while Hill et al. teach

xxxii. In the change state, if an update executable exists running said update executable (Par. 5).

v. As for claim 9 Olson discloses

xxxiii. Putting the state machine in a sleep mode during the execution of the update executable (Par. 35).

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olson (US 2001/0032300) in view of Raves et al. (US 2003/0182500).

w. As for claim 20 Olson discloses the depended upon claim 11, but fails to disclose

xxxiv. The protected memory location stores an operating system of the embedded system.

xxxv. Raves et al. teach this (Par. 2, & Par. 5-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the protected O.S. of Raves et al. with the filtered write system of Olson because both system utilize a filtered write method and have protected areas of memory and protecting the operating system in Olson's system would increase the reliability of the operating system and therefore the overall system as well.

Allowable Subject Matter

9. Claims 7 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter:

- x. Claim 7 contains at least the following allowable subject matter:
 - xxxvi. The step of creating an update file further comprises naming the update file using a timestamp.
- y. Claim 17 contains at least the following allowable subject matter:
 - xxxvii. The updates are not applied during the normal state.

Conclusion

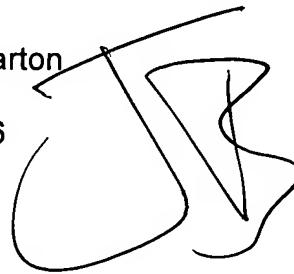
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Barton whose telephone number is 571-272-8157. The examiner can normally be reached on Monday - Friday 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jonathan Barton
Examiner
Art Unit 2186

JB



MATTHEW D. ANDERSON
PRIMARY EXAMINER